

Municipal waste incineration plants

Poland produces approx. 12 million tonnes of municipal waste every year.

If the Polish waste management market complied with EU standards, 2.5 million tonnes of that waste would have to be incinerated every year. If Poland were to meet the standards of the German waste management market, as much as 5.2 million tonnes of municipal waste would have to be thermally treated in incineration plants.

Currently, only one municipal waste incineration plant, with a capacity of 65,000 tonnes per annum, operates in Poland. According to voivodeship waste management plans, approx. 35 municipal waste incineration plants should be built during the next few years. Preparations are currently underway for the construction of 21 of them. They will probably all use moving grate technology.

Current market

Poland needs a revolution on the waste management market if the standards set out in EU directives are to be met.

To achieve legally required levels of recovery and treatment of municipal waste, Polish local governmental authorities will have to make significant investment in the construction of waste treatment installations, including incineration plants.

The estimated construction costs of 21 incineration plants currently planned to be built in Poland is equal to approx. PLN 9 billion (approx. EUR 2.25 billion). Although construction of incineration plants is very capital

intensive, many local governmental authorities are strongly incentivised in having them built as soon as possible.

This is because, from July 2013, they may have to pay administrative fines to central government if they do not achieve the required levels for dumping and treatment of waste.

New regulations

In 2013, Polish local governmental authorities became the holders of municipal waste and the supervisor of local waste management systems.

Under the new law, they are obliged to ensure that the treatment of municipal waste produced by residents in their respective district is in line with the applicable legal requirements.

Incineration plants

- Only one municipal waste incineration plant currently operates in Poland (in Warsaw).
- Preparation for the construction of 21 municipal waste incineration plants have begun.
- New plants will be procured either as design-and-build projects or as PPPs.

To this end, municipalities must directly contract all the services necessary for the proper collecting, treatment and disposal of that waste.

To ensure the efficient operation of the municipal waste management system they have to conclude agreements with waste collection companies and companies running composting plants, waste sorting plants and incineration plants.

Under the new regime, the owners of real properties are required to pay the municipality a special fee (public charge).

The fee is determined as an amount enabling municipalities to cover the general costs of the

operation of the municipal waste management system on their territory, such as the costs of: (i) taking away, transporting, collecting, recovering and treating municipal waste, (ii) establishing and maintaining points for the selective collection of municipal waste and (iii) administering the system. Consequently, municipal waste management systems must be fully self-financing. The new model for the financing of municipal waste management systems was designed to enable local governmental authorities, inter alia, to finance the construction of the necessary waste treatment infrastructure based on a project finance structure.

EU funds

An additional incentive for local government to invest in waste treatment infrastructure is the possibility of co-financing these investments from the Cohesion Fund.

All Polish municipalities currently implementing incineration plant projects have concluded agreements for additional financing from EU funds for these projects.

Over the new 2014-2020 financial framework, incineration plant projects will continue to be eligible for

Statistics

- Currently, as much as 73% of municipal waste in Poland is dumped in landfills (the EU average is approx. 38%).
- In Poland, 14% of municipal waste is recycled (the EU average is approx. 24%).
- In Poland, 7% of municipal waste is composted and undergoes other treatment (approx. 14% in the EU).
- In Poland, less than 1% of municipal waste is incinerated (approx. 21% in the EU).

additional EU financing.

Conventional projects

Five municipal waste incineration plants are currently under construction. They were commissioned as conventional public works procurements.

The total value of the investment outlays to be incurred under these projects during the construction phase is approx. PLN 2.7 billion (approx. EUR 660 million). Completion of these projects will result in the construction of plants with a total annual capacity of 764,000 tonnes. All of these projects are currently at the pre-construction stage.

The table below sets out basic

information on these ongoing projects.

The local municipalities currently implementing incineration plant projects plan to have the incineration plants they are building operated by companies wholly owned by them. However, in the future, the necessity of lowering the costs of the waste management system could force them to revise these plans and to partner with experienced operators from the private sector.

PPP projects

Poland's largest local municipalities have considered procuring incineration plants under the PPP scheme. The PPP scheme offers local municipalities the opportunity to have plants built on time, releases

No.	Contracting Authority	Capacity of plant per annum	Gross outlay	Contractor
1	Kraków	220,000 tonnes	PLN 797 million	Posco Engineering & Construction
2	Bydgoszcz	180,000 tonnes	PLN 491 million	Astaldi and Termomeccanica Ecologia
3	Szczecin	150,000 tonnes	PLN 666 million	Mostostal Warszawa
4	Białystok	120,000 tonnes	PLN 409 million	Budimex
5	Konin	94,000 tonnes	PLN 364 million	Integral Engineering und Umwelttechnik

them from the risk of construction cost overruns and should decrease the cost of such projects over their operational life.

Furthermore, many large Polish municipalities, owing to their level of indebtedness, are unable to take out loans for large investment projects or issue guarantees securing debt financing.

Consequently, they are able to implement capital-intensive projects only based on a non-recourse and off-balance-sheet project financing basis.

The Poznań project

Over the last 2 years, most attention has been attracted by the incineration plant project in Poznań - the first waste-to-energy PPP project in Poland. It is also Poland's first blended PPP project (i.e. a PPP project with a financial model providing for partial co-financing of the construction costs from EU funds).

The Poznań project's primary role was to verify whether the PPP scheme could successfully serve as an investment tool in the waste management sector in Poland.

Key parameters of the project

- Capacity of plant per annum - 210,000 tonnes.
- Construction phase – up to 43 months.
- Operational phase – 25 years.
- EU funds available – up to PLN 352 million (approx. EUR 85 million).

All of the biggest players active on the European waste & environmental PPP market have shown interest in the project. Five of them, i.e. E.ON (EEW), SITA, Remondis, Dalveo and Wheelabrator, have prequalified.

EEW, SITA and Wheelabrator submitted their final bids in November 2012. One month later Poznań selected SITA as the preferred bidder.

The Poznań project demonstrated that PPP projects for the construction and maintenance of incineration plants are feasible in Poland.

The Poznań project confirmed that the city's decision to select the PPP scheme for the implementation of the project was rational. Reliable private

sponsors, with tested know-how, took part in a competitive dialogue, three bids were submitted, the costs of constructing the incineration plant and the remuneration expected by the bidders for the plant's construction and maintenance for 25 years seem to be fully in line with the city's expectation.

Projects under preparation

Gdańsk and Łódź, wishing to capitalise on the success of the Poznań project, shortly plan to announce PPP projects for the construction and maintenance of incineration plants. It is very likely that both cities will structure their projects in a similar way to Poznań (they will be able to use the documentation from the Poznań proceedings).

Currently, apart from those construction projects being carried out by Kraków, Bydgoszcz, Szczecin, Białystok and Konin and the Poznań PPP project, preparations for 14 other projects are underway.

The table on the next page contains a list of those projects.

The Poznań project – bids

- Proposal of E.ON – investment outlay during construction phase: approx. PLN 696 million, NPV of the project: approx. PLN 1.179 million.
- Proposal of SITA – investment outlay during construction phase: approx. PLN 724 million, NPV of the project: approx. PLN 854 million.
- Proposal of WT – investment outlay during construction phase: approx. PLN 856 million, NPV of the project: approx. PLN 1.259 million.

No.	Location	Planned annual capacity of the plant	Sponsor/Model
1	Warsaw	265,000 tonnes	public utility/public works procurement
2	Katowice	260,000 tonnes	public utility /PPP
3	Gdańsk	220,000 tonnes	public utility /PPP
4	Łódź	200,000 tonnes	the City/PPP
5	Oświęcim	150,000 tonnes	private investor/own investment
6	Chrzanów	150,000 tonnes	public entity/ public works procurement
7	Radom	110,000 tonnes	public utility / public works procurement
8	Tarnów	100,000 tonnes	local CHP operator/ public works procurement
9	Rzeszów	100,000 tonnes	energy corporation/ public works procurement
10	Mielec	100,000 tonnes	local CHP operator/ public works procurement
11	Płock	100,000 tonnes	public utility /PPP
12	Koszalin	92,000 tonnes	the City /PPP
13	Gorlice	62,000 tonnes	local CHP operator/public works procurement
14	Hrubieszów	40,000 tonnes	private investor/own investment

The Olsztyn project

A PPP project relating to the construction of a municipal waste incineration plant is also currently being implemented by the operator of a CHP in Olsztyn (MPEC).

MPEC is interested in constructing a plant that will be capable of thermally treating 90,000 tonnes of municipal waste and 30,000 tonnes of biomass per annum, with the possibility of also using gas fuel. MPEC estimates the value of the investment outlay on the construction of the plant at PLN 700 million (approx. EUR 170 million).

MPEC is planning to have the project implemented by a special purpose company in which, apart from a private investor, MPEC will also hold shares. This is a new way of implementing a PPP project on the Polish market because, until now, no

PPP project with an SPV incorporated by the public sponsor and the private partner has been carried out in Poland. A private partner will have to contribute funds to the SPV amounting to 40% of the capital expenditure for the construction of the CHP, but no less than EUR 36.5 million. The other funds necessary for the construction of the CHP will come from a loan facility, other financial instruments or a private partner's own funds. The debt financing will be made available to the SPV and a private partner will, if necessary, guarantee the repayment of the financing by the SPV.

MPEC will contribute a real property (with an area of approx. 7.5 hectares) on which the CHP is to be constructed and it will cooperate with the SPV in obtaining the necessary administrative decisions, including the building permit for the CHP.

The PPP agreement will be concluded for up to 30 years. The

CHP should be constructed within five years of the conclusion of the PPP agreement.

The procurement will be granted as a result of a competitive dialogue. Within the scope of the dialogue the energy production technology will be selected and the scope of the construction works and technical parameters of the CHP plant will be specified.

The final parameters of the CHP plant will be set out in the Terms of Reference (ToR), which will be delivered by MPEC to the competitive dialogue participants along with the invitation to submit the bids.

Posco Engineering & Construction, Dalkia, NDI, Strabag and Abeinsa have been prequalified to participate in the proceedings.

Private investors

21 projects for the construction of municipal waste incineration plants are currently being prepared. According to voivodeship waste management plans, approx. 35 regional plants of this type could be built in Poland.

Also private investors are interested in implementing projects for the

construction of small municipal waste incineration plants (capable of treating other types of waste as well). Several real estate developers (e.g. Rank Progress) currently active on the Polish market have declared their willingness to implement construction projects for incineration plants with a capacity of 20,000 to 100,000 tonnes (using technologies other than the moving grate technology) and are

seeking financial investors for those projects.

However, it is not clear whether small regional plants will indeed be procured by the municipalities or their associations. An effective optimisation of maintenance and operating costs of an incineration plant with a capacity lower than 100-120,000 tonnes could be challenging.

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